How can your organization help prevent HIV-related TB in your clients?

Collaborate with your state or local health department's TB control program to:

- Educate your staff about TB
- Educate your staff about testing for TB
- Educate your staff about the proper treatment of persons coinfected with TB and HIV

Other ways your organization may be able to help:

- Provide TB testing for your high-risk clients
- Assist in the delivery of DOT for latent TB infection

CDC publications about TB for your health care providers:

Updated Guidelines for the Use of Rifamycins for the Treatment of Tuberculosis Among HIV-Infected Patients Taking Protease Inhibitors or Nonnucleoside Reverse Transcriptase Inhibitors. This notice presents current data pertaining to interactions between rifamycins and antiretrovirals. www.cdc.gov/nchstp/tb/TB_HIV_Drugs/PDF/tbhiv.pdf

Other CDC guidelines about TB can be viewed by visiting the CDC Division of Tuberculosis Elimination Website at www.cdc.gov/tb

TB Information Guide, Version 5.0, September 2005. A CD-ROM containing TB educational materials, major TB guidelines, surveillance reports, and slide sets. www2.cdc.gov/nchstp_od/piweb/tborderform.asp

Interactive Core Curriculum on Tuberculosis Web-based course. An interactive course containing detailed information about TB. www.cdc.gov/nchstp/tb/webcourses/CoreCurr/index.htm

CDC Publications about TB for your clients:

Questions and Answers About TB. A booklet about TB transmission, testing, and treatment, including DOT and side effects of medications. www.cdc.gov/nchstp/tb/faqs/pdfs/qa.pdf

Tuberculosis – The Connection Between TB and HIV (the AIDS Virus) – A pamphlet on the risk of HIV-related TB, TB skin testing, and treating TB and HIV coinfection. www.cdc.gov/nchstp/tb/pubs/pamphlets/TB-HIVEng.PDF

CDC publications about TB can be viewed and ordered at no cost by visiting the CDC Division of Tuberculosis Elimination Website. www.cdc.gov/tb

For more information, the following resources are also available:

TB Education and Training Resources Website
Use this site to search for TB education and training materials, find out how to order TB materials, and locate funding opportunities. www.findtbresources.org

TB-Related News and Journal Items Weekly Update
This weekly e-mail update is a compilation of TB-related articles published for the benefit and information of people interested in TB. www.cdcnpin.org/scripts/tb_update.asp

The TB Education and Training Network (TB ETN)
TB ETN brings TB professionals together to network, share resources, and build education and training skills. www.cdc.gov/nchstp/tb/TBETN

CDC National Prevention Information Network
The nation's largest collection of information and resources on HIV, STD, and TB Prevention. www.cdcnpin.org

Or contact your state or local health department.

TB and HIV Coinfection

What Can HIV/AIDS Service Organizations Do to Help?

- Collaborate with your local health department's tuberculosis (TB) control program
- Educate your staff about TB
- Educate your staff about the importance of TB testing in the prevention of TB

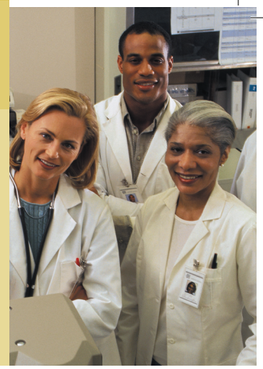
HIV-Related TB Can Be Prevented and Cured – and You Can Help!

Many people think tuberculosis (TB) is a disease of the past. However, in spite of fewer people in this country suffering with TB, it remains a serious threat, especially for HIV-infected persons. In fact, worldwide TB is responsible for the deaths of one in three people living with HIV/AIDS – making it the leading cause of death among people infected with HIV. As someone working in an AIDS service organization (ASO), you can play a critical role in ensuring that HIV-related TB can be prevented and cured in your clients.

Why should I be concerned about TB and HIV coinfection?

- Without treatment, as with any other opportunistic infection, HIV and TB can work together to shorten the life of the person infected.
- Someone with untreated latent TB infection and HIV infection is **much more** likely to develop active TB disease during his or her lifetime than someone without HIV infection.
- Among people with latent TB infection, HIV infection is the strongest known risk factor for progressing to active TB disease.
- A person who has both HIV infection and active TB disease has an AIDS-defining condition.

The best way to find out if your client is coinfected with TB is to ensure that he or she has a TB skin test.



What is TB?

TB is a disease caused by bacteria called *Mycobacterium tuberculosis*. This disease primarily affects the lungs, but can attack any organ in the body. TB is spread through the air from one person to another. The bacteria are put into the air when a person with TB disease of the lungs or throat coughs or sneezes. People nearby may breathe in these bacteria and become infected. However, not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: **latent TB infection** and **active TB disease.** Both of these conditions are treatable and curable.

What is the difference between latent TB infection and active TB disease?

In most people who breathe in TB bacteria and become infected, the body is able to fight the bacteria and stop them from growing. The bacteria become inactive, but they remain alive in the body and can become active later. This is called **latent TB infection**. There are an estimated 9 to 14 million persons in the United States with infection from *M. tuberculosis*. Most people who have latent TB infection never develop active TB disease. In these people, the TB bacteria remain inactive for a lifetime without causing disease. A person with latent TB infection does not feel sick and cannot spread TB bacteria to others.

However, in some cases TB bacteria can become active if the immune system can't stop them from growing. These bacteria begin to multiply in the body and cause **active TB disease**. Because HIV weakens the immune system, people with latent TB infection and HIV infection are at **very high risk** of developing active TB disease.

What is a TB skin test?

The TB skin test is a method used to diagnose TB infection. A small needle is used to inject some testing material, called tuberculin, into the upper layers of the skin. This is usually done on the inside of the forearm. The person getting the test must return two to three days later to have the test site on the arm examined by a nurse or doctor. If there is a reaction on the arm, the size of the reaction is measured. A positive reaction, usually a small bump, means that the person probably has TB infection. Other tests are needed to determine if the person has latent TB infection or active TB disease.

All HIV-infected people should be given a TB skin test to find out if they have TB infection. Some people who are infected with both HIV and TB will not react to the TB skin test. This is because the immune system is not working properly. Anyone who is HIV infected and has a negative TB skin test should also be given other medical tests such as a chest x-ray if they have symptoms of active TB disease. To find out where TB skin tests are offered in your community or to determine if your organization should provide skin testing services, contact your state or local health department's TB control program.

Good News

The good news is that HIV-infected persons with either latent TB infection or active TB disease can be effectively treated. The first step is to ensure that HIV-infected persons get a TB skin test and any other needed tests. The second step is to help the people found to have either latent TB infection or active TB disease get proper treatment. Rapid progression from latent TB infection to active TB disease can easily be prevented. Active TB disease can be treated and cured in HIV-infected persons.

Treatment

There are a number of treatment options for HIV-infected persons with either latent TB infection or active TB disease. For the latest guidelines about the different treatment regimens, refer to the resources listed on the back of this brochure, and also consult with your state or local health department. It is important for HIV-infected patients to be closely monitored by a physician during any type of treatment to make sure they are not hurt by side effects from taking TB and HIV medicines together. Monitoring is also important to make sure the TB medicines are not interacting with patients' HIV medicines in a way that could weaken the strength of the HIV medicines.

People with latent TB infection:

- Have TB bacteria in their body that are alive, but inactive
- Do not feel sick
- Cannot spread TB bacteria to others
- Usually have a positive TB skin test
- Will have a normal chest x-ray
- May become sick if the bacteria become active in their body
- Need treatment for latent TB infection **as soon as possible** to prevent them from developing active TB disease

People with active TB disease:

- Have active TB bacteria in their body
- Feel sick and may experience symptoms such as fever, weight loss, and a bad cough that lasts 3 weeks or longer
- May spread TB bacteria to others
- Usually have a positive TB skin test
- May have an abnormal chest x-ray
- **Can die from this life-threatening disease if undiagnosed or untreated**
- Need treatment with multiple medications to cure active TB disease

The medicine usually used to treat latent TB infection:

- Isoniazid (INH)

Taken as prescribed, INH will kill the TB bacteria in the body and prevent the development of active TB disease.

Multiple medicines are used at the same time to treat active TB disease:

- Isoniazid (INH)
- Rifampin or Rifabutin
- Pyrazinamide
- Ethambutol

To treat active TB disease, several different medicines are needed. This is because there are many bacteria to be killed. Taking several drugs will do a better job of killing all of the bacteria and preventing them from becoming resistant to the drugs.

A crucial component of treating active TB disease is directly observed therapy (DOT). With DOT, a health worker watches the patient swallow each dose of TB medication. DOT increases patient adherence and prevents relapses, continued transmission, and the development of drug resistance. If resources are available, DOT may also be beneficial for the treatment of latent TB infection, especially in HIV-infected persons. To find out if your organization can help with DOT services, please contact your state or local health department's TB control program.